



# **Supplier Quality Assurance**

*Presented By:*

***Dick Kane, DCMA Process Owner***

***Maurice Poulin, DCMA Process Owner***

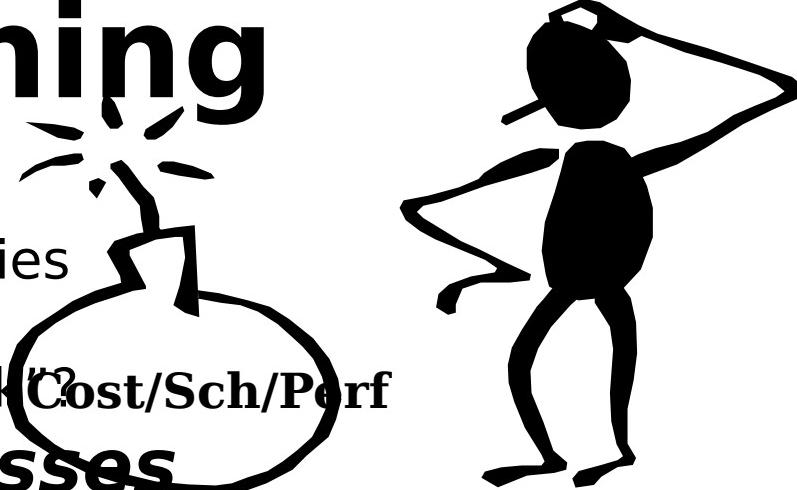
*Date*

***June 26-30, 2000***

***FST Conference, Orlando, FL***

# Planning

- **What to look for**

- Contract: TDP, QA requirements
- QALI: customer interests, mandatories
- Contractor production plans?
- Which processes are “make or break”  
  
Cost/Sch/Perf

- **Examples of key processes**

Calibration

Purchasing

Welding

Packaging

**Grinding**

Brazing

ECPs

Radiography

Continuity test

Functional test

Alignment/phasing

Final inspection

- **Examples of key process rationale statements**

- **Grinding** of interface surfaces is critical to weapon system interface

- Customer QALI identified **grinding** as problematic on last procurement

- Improper **grinding** will cause extremely costly weapon

RAMP - [One Book Chapter Rating]

File Edit RAMP LIST Table Maintenance Data Transfer Window Help

CAGE Service Set      One Book Chapter  
0XY5 Product Support      Supplier Quality Assurance - Product Quality

Overall One Book Chapter Ratings - Supplier Quality Assurance - Product Quality

**Performance**      **Schedule**      **Cost**

In Process      In Process      In Process

Narrative

Expand

Key Process / System Ratings			Ratings			
Key Process /	Contract	Risk	Per	Sch	Cst	Details
Calibration						Rate
Packaging						Rate
ECPs						Rate
Functional Test						Rate
Purchasing						Rate
► Grinding						Rate
Radiography						Rate
Alignment/phasing						Rate
Welding						Rate
Brazing						Rate
Continuity Testing						Rate
Final Inspection						Rate
*						

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Programs

Rating Definition Key Process / Rating Rationale Risk Handling Tools

**Key Process Rationale (Explain inclusion of the Key Process/System)**

Click Here for a Sizable Edit Window

5/19/00 - Grinding of interface surfaces is critical to weapon system interface

- Customer QALI identified grinding as problematic on last procurement
- Improper grinding will cause extremely costly weapon system repairs
- Grinding defects likely to delay deliveries beyond schedule limits
- Improper grinding likely to jeopardize user safety

}

# Examples

**Rating Rationale (Explain the selected Ratings)**

Click Here for a Sizable Edit Window

5/19/00

Cost: Fixed price contract, highly unlikely that grinding defects could cause significant user costs. Low cost risk.

Schedule: Grinding defects unlikely to cause schedule problems because process yield is very high (99.2%), rework can easily be accomplished, standard repair procedures (plasma spray) available. Low schedule risk.

Performance: Process yield 99.2 %, but customer QALI indicates grinding problematic on last contract. Moderate performance risk.

Save



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## Assessment

- **Example:** Grinding Process
- **Initial Major Considerations**
  - **Cost:** Fixed price contract, highly unlikely that grinding defects could cause significant user costs. **Low** cost risk.
  - **Schedule:** Grinding defects unlikely to cause schedule problems because process yield is very high (99.2%), rework can easily be accomplished, standard repair procedures (plasma spray) available. **Low** schedule risk.
  - **Performance:** Process yield 99.2 %, but customer QALI indicates grinding problematic on last contract. **Moderate** performance risk.
- **Example of a Risk Rating Change:**  
Grinding process yield of 62% during July. High



Rating Definitions

Key Process / Rating Rationale

Risk Handling Tools

High

Moderate

Low

**Performance**

- # Product technical performance requirements continually fail acceptance criteria.
- # Process is performing in an uncontrolled state.
- # Low process yields with significant room for improvement
- # Ineffective corrective action to

**Schedule**

- # Product/process integrity impacts schedule

**Cost**

- # Contract cost increase is likely

- # Process yields indicate opportunities for improvement
- # Occasional inspection escapes from contractor inspection/testing program
- # Evidence of "hidden factory" rework is inherent within the process
- # DCMC product audits result in

- # Product/process integrity is compromised. Likely impact to schedule

- # Potential impact to contract cost due to scrap, rework, repair, waiver or deviation costs

- # Very high process yields
- # Few inspection escapes from contractor inspection/testing program
- # Contractor detects and corrects virtually all non-conformances produced
- # Contractor takes effective corrective action to eliminate cause

- # Product/process integrity acceptable with no impact to schedule

- # Minimal/no cost impact

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Reviewed by: Unassigned

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Rating Definitions Key Process / Rating Rationale Risk Handling Tools

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Click Here for a Sizable Edit Window

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- **Example: Grinding Process - High Risk Rating**
  - **Process Proofing-** Complete by Aug 15
  - **Product Audits-** Dimensional inspection of 20 units per week (weekly lot size =160, Squelia, 1.0 AQL), randomly selected, after final grind; on sample units, must inspect all dimensional characteristics drawn from/to ground surface(s)
  - **Data Analysis-** Data collected weekly; thorough analysis conducted by the 15th day of each month



[Rating Definitions](#) | [Key Process / Rating Rationale](#) | [Risk Handling Tools](#)

Tool	Intensity	Schedule	Frequency
▶ Process Proofing	not applicable	Complete by 8/15/00	One time
Product Audits	20 per week	Any workday	Weekly
Data Analysis	not applicable	15th day of each month	Monthly
Corrective Action	as required	as required	as required
*			

#### Risk Handling Details

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Grinding Process:

Process Proofing- Complete by Aug 15

Product Audits- Dimensional inspection of 20 units per week (weekly lot size =160, Squelia, 1.0 AQL), randomly selected, after final grind; on sample units, must inspect all dimensional characteristics drawn from/to ground surface(s)

Data Analysis- Data collected weekly; thorough analysis conducted by the 15th day of each month

Save



Close



0XCY5 Product Support

## Supplier Quality Assurance - Product Quality

## Overall One Book Chapter Ratings - Supplier Quality Assurance - Product Quality

Performance

Schedule

Cost

In Process

In Process

In Process

Narrative

Expand

## Key Process / System Ratings

## Ratings

Key Process /	Contract	Risk	Per	Sch	Cst	Details
Alignment/phasin			IP	IP	IP	Rate
Annealing			IP	IP	IP	Rate
Bending			IP	IP	IP	Rate
Brazing			IP	IP	IP	Rate
Continuity			IP	IP	IP	Rate
Final Inspection			IP	IP	IP	Rate
Grinding	R	M	L	L	L	Rate
Packaging			IP	IP	IP	Rate
Bending			IP	IP	IP	Rate
Radiography			IP	IP	IP	Rate
Tensile Test		IP	IP	IP	IP	Rate
Welding			IP	IP	IP	Rate
*						

Programs



## Monitoring

- **Example: Grinding Process - High Risk Rating**
- **November Risk Monitoring**
  - **Process Proofing-** Satisfactorily completed (Aug)
  - **Results of Product Audits**
    - Aug- 80 inspected/16 defects
    - Sep- ~~80 inspected/0 defects~~
    - Oct- 80 inspected/0 defects
- **Example of Risk Monitoring Adjustment** Contractor has complete control of grinding

**Determine Rating**

<b>CAGE</b> 0XCY5	<b>Service Set</b> Product Support	<b>One Book Chapter</b> Supplier Quality Assurance - Product Quality	<b>Key Process / System</b> Grinding
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Rating Definitions | Key Process / Rating Rationale | Risk Handling Tools

	<b>Tool</b>	<b>Intensity</b>	<b>Schedule</b>	<b>Frequency</b>
	Process Proofing	Completed 8/15/00	Completed 8/15/00	Completed 8/15/00
	Product Audits	10 units	Any workday	Weekly
	Data Analysis	Not applicable	15th day of each month	Monthly
...	Corrective Action	As required	... As required	As required
*				

**Risk Handling Details**

Click Here for a Sizable Edit Window

11/15/00 - November Risk Monitoring - Grinding  
 - Process Proofing- Satisfactorily completed (Aug)  
 - Results of Product Audits: Aug- 80 inspected/16 defects; Sep- 80 inspected/0 defects; Oct- 80 inspected/0 defects  
 - Contractor has complete control of grinding process since 15 Aug. Process risk rating reduced to moderate; product audits reduced to inspecting 10 units per week.

- Required for risk planning, assessment, handling, & monitoring.

- Reassessments/changes
  - A method of communicating
    - Buying offices
    - Supervisors
    - IOA Team

